Release notes for ENDF/B Development e-064_Gd_000 evaluation

October 13, 2016

- `fudge-4.0` Warnings:

  1. Mislabled emitted particle
     Reading ENDF file: ../e-064_Gd_000.endf (Error # 0): ZAP messed up

     `WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0`

  2. FIXME: Generic fudge unimplemented message
     reaction label 1: e- + Gd + gamma [bremsstrahlung] / Product: e- (Error # 0): Generic unimp (c)

     `WARNING: Checking not yet implemented for energyLoss type data`

  3. FIXME: Generic fudge unimplemented message
     reaction label 2: e- + Gd [excitation] / Product: e- (Error # 0): Generic unimp (c)

     `WARNING: Checking not yet implemented for energyLoss type data`

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: e- + Gd [large angle Coulomb scattering] / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  2. Calculated and tabulated thresholds don't agree
     reaction label 1: e- + Gd + gamma [bremsstrahlung] / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  3. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + Gd [excitation] / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  4. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e- + Gd1s1/2 / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50303. eV!`

  5. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + e- + Gd2s1/2 / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8349.799999999999 eV!`

  6. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + e- + Gd2p1/2 / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7947. eV!`

  7. Calculated and tabulated thresholds don't agree
     reaction label 6: e- + e- + Gd2p3/2 / Cross section: (Error # 0): Threshold mismatch

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```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7242.7 eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 7: e- + e- + Gd3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1864.6 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 8: e- + e- + Gd3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1686.9 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + e- + Gd3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1541.8 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + e- + Gd3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1231.6 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + e- + Gd3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1199.8 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + e- + Gd4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 381.39 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + e- + Gd4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 311.3 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + e- + Gd4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 278.86 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + e- + Gd4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 162.16 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + e- + Gd4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 156.3 eV!
```

18. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + e- + Gd4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.03 eV!
```

19. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + e- + Gd4f7/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16.2 eV!
    ```

20. Calculated and tabulated thresholds don't agree
    reaction label 19: e- + e- + Gd5s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 54.66 eV!
    ```

21. Calculated and tabulated thresholds don't agree
    reaction label 20: e- + e- + Gd5p1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.83 eV!
    ```

22. Calculated and tabulated thresholds don't agree
    reaction label 21: e- + e- + Gd5p3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30.18 eV!
    ```

23. Calculated and tabulated thresholds don't agree
    reaction label 22: e- + e- + Gd5d3/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.19 eV!
    ```

24. Calculated and tabulated thresholds don't agree
    reaction label 23: e- + e- + Gd5d5/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.85 eV!
    ```

25. Calculated and tabulated thresholds don't agree
    reaction label 24: e- + e- + Gd6s1/2 / Cross section: (Error # 0): Threshold mismatch

    ```
    WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.71 eV!
    ```

- `xsectplotter` Warnings:

    1. Mislabled emitted particle
       Error: ZAP messed up

       ```
       stderr while processing crossSection

            WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0
       ... [4 more lines]
       ```